REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated September 15, 2008. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1, 4, 8-9, 12, 16-19 and 22-23 are under consideration by the Examiner in this application. Claims 2-3, 5-7, 10-11 and 13-15 are being cancelled without prejudice or disclaimer. Claims 1, 4, 9 and 12 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim Applicants' invention. All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Priority Document English Translation

The Examiner requested an English translation of the Japanese priority document, in order to claim the benefit of the priority date. Applicants respectfully submit that 35 USC 119(b)(c) only states that the director ***may*** require a certified copy of the original foreign application...***a translation if not in English***". Such a request is usually made if Applicants use the foreign prior date to remove a prior art reference, which did not occur in this case. As such, there is no need for Applicants to spend the time and money to prepare the English translation of the Japanese priority document in the case. The withdrawal of the request for English translation is therefore respectfully solicited.

Prior Art Rejections

Claims 1, 3-4, 6, 8-12, 14, 16-17, 19 and 22-23 were rejected under 35 U.S.C. §103 (a) as being unpatentable over newly cited Dan et al. (US 6,223,206) in view of Sakurai (US 5,093,779), McBrearty et al. (US 2002/0133681) and Pitts (US 6,205,475); claims 2, 7 and 15 further in view of newly cited DeKoning (US 6,691,254); claims 5 and 13 further in view of Sato et al. (US 2004/0111441); and claim 18 further in view of Choquier et al. (US

6,961,681). These rejections have been carefully considered, but are most respectfully traversed.

The file replication method of the present invention creates, in a distributed file system (e.g., Fig. 1) including a plurality of network storage apparatus and a replication system each connected to a network 102, the replication system having a management table 157 for managing *attribute information* of all files and all directories in a first network storage apparatus 103 as a replication source, a partial copy of data stored in the first network storage apparatus 103 into a second network storage apparatus 104 as a replication destination (Fig. 7; "*The unified management directory 157 manages only the files-and-directories tree structure of the entire virtualized-and-unified file system 103 including the network storages 120 to 122 and all the file identifiers (they include attribute information). Although the unified manage directory 157 provides the files-and-directories tree structure for the clients, each of the files in the unified management directory 157 does not have data as the file entity. All data are stored in distributed relation in the network storages 120 to 122.*" p. 22, last paragraph). The method comprising the steps of: preliminarily recording replication information (i.e., corresponding to the information registered into the rule table 412 of Fig. 4; p. 57, lines 9-19) indicating whether or not each of the files and the directories stored in said first network storage apparatus is an object to be copied in said replication system (p. 7, lines 9-12; p. 34, lines 4-8; p. 36, lines 10-13); preliminarily examining whether or not each of files and directories, that is indicated as an object to be copied, in said first network storage apparatus and each of copied files and directories maintain consistency, and setting a synchronization flag to each of files and directories which is proved to be consistent with a copy thereof (claim 2); receiving a file access request from a client; judging that a replicating operation should be performed with execution of said file access request under conditions (i) that said file access request is an updating file access request and (ii) that an access target of said file access request is a file or a directory which is indicated as an object to be copied and to which the synchronization flag is set; simultaneously transferring, if a result of said judgment is such that the replicating operation should be performed, said updating file access request to said first network storage apparatus and to said second network storage apparatus; collecting from said first network storage apparatus and from said second network storage apparatus responses to the updating file access request and making the collected responses into one response indicating that the updating file access request is done; and sending said one response to the client (Fig. 5, step 505; p. 38, line 20 to p. 39, line 9). The method recited in claim 9 includes more details.

The invention as recited in claim 4 is directed to a replication system for implementing the method recited in claim 1. Claim 12 recites a similar system.

Applicants respectfully contend that the cited references fail to teach or suggest (1) that "preliminarily examining whether or not each of files and directories, that is indicated as an object to be copied, in said first network storage apparatus and each of copied files and directories maintain consistency, and setting a synchronization flag to each of files and directories which is proved to be consistent with a copy thereof," (2) that "judging that a replicating operation should be performed with execution of said file access request under conditions (i) that said file access request is an updating file access request and (ii) that an access target of said file access request is a file or a directory which is indicated as an object to be copied and to which the synchronization flag is set", (3) that "simultaneously transferring, if a result of said judgment is such that the replicating operation should be performed, said updating file access request to said first network storage apparatus and to said second network storage apparatus", and (4) that "collecting from said first network storage apparatus and from said second network storage apparatus responses to the updating file access request and making the collected responses into one response indicating that the updating file access request is done; and sending said one response to the client" as in the present invention.

Regarding the newly added (1) feature of preliminarily examining consistency and setting a synchronization flag, it is partially recited in the cancelled claim 2. DeKoning was relied upon by the Examiner (p. 13, lines 13-15 of the outstanding Office Action) to cover the teachings of claim 2. Dekoning's "coherent state" exists between "all stored data" of all of the local storages and "all stored data" of all of the remote storages (col. 2, lines 23-28), rather than examining on a per file or per directory basis and setting a flag respectively as in the present invention. Dekoning does not set "a synchronization flag" to ***each of*** files and directories when confirming consistency of the file or the direction is maintained.

The present invention decides whether to carry out simultaneous transmission of updating file access requests for a required file or directory to plural network storages according to the synchronous flag of such a file or directory, so as to minimum access transmission communication. The present invention thus maintains the synchronous state between the source file/directory and the copy, even after performing many file access requests. Thereby, the present invention reduce costs after a trouble occurs and impair the consistency of file/directory (p. 74, lines 4-15).

The other cited references fail to compensate for Dekoning's deficiencies. For example, Pitts discloses consistency of a data cache in a host memory. In Pitts, file data is only stored in one hard disk (Col. 9, line 60 through col. line 63), such that Pitts does not disclose the (1) feature of the present invention.

Regarding the (2) feature of judging, Dan was relied upon by the Examiner (p. 5, 1st para. of the outstanding Office Action) to cover the teachings. Dan is related with the sequential file retrieval (read-out) technology of the file stored in plural disks (Technical Field, col. 1, lines 19 - 26). Dan sets "a file switch point" in a file to read out the data of the file from one disk first. When the read out reaches the file switch point, Dan then reads out the counting data (with a duplicated portion) from another disk (col. 5, line 58 through col. 6, line 26; Fig. 2C). Dan is silent regarding the (i) & (ii) conditions for a replicating operation to be performed with execution of said file access request according to the (2) feature of the present invention.

Regarding the (3) feature of simultaneously transferring, Pitt was relied upon by the Examiner (p. 5, lines 9-14 of the outstanding Office Action) to cover the teachings. However, Pitts only describes that the number of the data set being one, and a plurality of requests are simultaneously performed upon the same data set. Pitts does not teach "simultaneously transferring an updating file access request to the replication source and to the replication destination" as in the present invention.

Regarding the (4) feature of collecting and sending recited at the end of claim 1, Dan was relied upon by the Examiner (p. 5, 2nd para. of the outstanding Office Action) to cover the teachings. Dan (which changes the disk to read and reads the partial portion of one file sequentially) is completely different from the technology of the subject invention (which collects responses of completion of updating from plural network storages and collecting those responses into one response). Since Dan does not execute said file access request as in the present invention, it neither "collect from said first network storage apparatus and from said second network storage apparatus responses to the updating file access request and making the collected responses into one response indicating that the updating file access request is done" as in the present invention

Applicants respectfully contend that the combination of references used by the Examiner merely consists of selecting bits and pieces from each reference, and then combining those bits and pieces using knowledge or hindsight gleaned from the disclosure of the present invention as a guide to support the combination. The well established rule of law is that each prior art reference must be evaluated as an entirety, and that all of the prior art

must be considered as a whole," Panduit Corp. v. Dennison Mfg. Co., 227 USPQ 337, 344 (Fed. Cir. 1985). See Para-Ordinance Mfg, Inc. v. SGS Importers Intl., Inc., 73 F.3d 1085, 37 USPQ2d 1237 (Fed. Cir. 1995) ("Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor."). One skilled in the art could not make the invention as claimed by the Applicants based on the above prior teachings except by using Applicants' invention as a blueprint. Applicants will point out that a rejection based on hindsight knowledge of the invention at issue is improper.

Even if, arguendo, one skilled in the art were motivated to combine the teachings in the cited references, such combined teachings would still fall short in fully meeting the Applicants' claimed features (1)-(4) as set forth in the independent claims as discussed above.

Applicants contend that the cited references or their combinations fail to teach or suggest each and every feature of the present invention as recited in independent claims 1, 4, 9 and 12. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

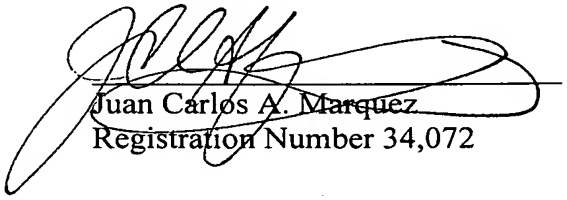
Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the

prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,



Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042
(703) 641-4200

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JCM/JT